Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended). An apparatus for plasma-chemical production of nitrogen monoxide for medical purposes, comprising:

a plasma-chemical reactor for producing dielectric barrier discharges, said reactor including:

an electrode with a dielectrically effective layer;

an opposing electrode;

mutually facing surfaces of said layer and said opposing electrode forming a discharge gap therebetween for conducting a flow of a process gas containing nitrogen and oxygen in a flow direction;

a number of constrictions forming discharge zones through which the process gas is passed in said flow direction and within which a dielectric barrier gas discharge is created, ~~said gas discharge producing a~~ said reactor

configured to produce a gas discharge having a non-thermal plasma ~~having~~ with a gas temperature of at least 400°C; and

a reactor outlet; and

an interface connected to said reactor outlet to facilitate inhalation of gas, produced from said reactor, by a person.

Claim 2 (original). The apparatus according to claim 1, wherein said discharge gap has a width in each of said discharge zones increasing from discharge zone to discharge zone in said flow direction of the process gas.

Claim 3 (previously presented). The apparatus according to claim 1, including a converter disposed immediately downstream of said reactor in said flow direction of the process gas, said converter configured to catalytically reduce nitrogen oxides in different oxidation states produced as a result of the gas discharge, to nitrogen monoxide.

Claim 4 (currently amended). The apparatus according to claim 3, including a heat exchanger for preheating the process gas flowing to said reactor with the heat of the process gas flowing out of said reactor.

Claim 5 (original). The apparatus according to claim 4, wherein said heat exchanger is integrated in said converter.

Claim 6 (original). The apparatus according to claim 3, including a branch line connected in parallel with said reactor and said converter, for diluting back the highly nitrogen monoxide enriched process gas flowing out of said converter with untreated process gas.

Claim 7 (previously presented). The apparatus according to claim 3, including a test probe disposed downstream of said converter in said flow direction of the process gas, said test probe having at least one of a temperature sensor, a pressure sensor and at least one sensor for determining a concentration in the process gas.

Claim 8 (original). The apparatus according to claim 1, including a control unit for adjusting at least one of a power coupled into said reactor, a volume flow of the process gas and a gas temperature.

Claim 9 (currently amended). An apparatus for plasma-chemical production of nitrogen monoxide for medical purposes, comprising:

a plasma-chemical reactor for producing dielectric barrier discharges, said reactor including:

an electrode with a dielectrically effective layer;

an opposing electrode;

mutually facing surfaces of said layer and said opposing electrode forming a discharge gap therebetween for conducting a flow of a process gas containing nitrogen and oxygen in a flow direction; and

a number of constrictions forming discharge zones through which the process gas is passed in said flow direction and within which a dielectrically impeded gas discharge is created, ~~said gas discharge producing a~~ said reactor configured to produce a gas discharge having a non-thermal plasma ~~having~~ with a gas temperature of at least 400°C; and

a reactor outlet; and

an interface connected to said reactor outlet to facilitate inhalation of gas, produced from said reactor, by a person.

10 (previously presented). The apparatus according to claim 1, wherein said interface is selected from the group consisting of a breathing mask and an oxygen tent.

11 (previously presented). The apparatus according to claim 1, wherein the gas to be inhaled by a person is nitrogen monoxide.